What is claimed:

1. An isolated HIV envelope protein or fragment thereof which, when adminsitered to a mammal, induces the production of broadly cross-reactive neutralizing anti-serum against multiple strains of HIV-1.

2. An isolated HIV envelope protein comprising the amino acid sequence of SEQ ID NO:1.

3. An isolated HIV envelope protein or fragment thereof comprising a proline at a position corresponding to amino acid residue 313, a methionine at a position corresponding to amino acid residue 314 and a glutamine at a position corresponding to amino acid residue 325 of SEQ ID NO:1.

4. An isolated HIV envelope protein or fragment thereof comprising a V3 region having the amino acid sequence P M X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 X_9 X_{10} Q, wherein X_1-X_{10} are a natural or non-natural amino acid.

5. A vaccine composition comprising an isolated HIV-1 envelope protein or fragment thereof of any one of claims 1-4 and a pharmaceutically acceptable carrier.

6. An immunogenic composition comprising an isolated HIV-1 envelope protein or fragment thereof of any one of claims 1-4 and a pharmaceutically acceptable carrier.

7. An isolated nucleic acid molecule encoding the HIV-1 envelope protein or fragment thereof of any of claims 1-4.

8. A fusion protein comprising all or a portion of a microbiological antigen into which any one of the proteins of claims 1-4 has been inserted.

9. A recombinant delivery vector encoding a fusion protein comprising all or a portion of a microbiological antigen into which any one of the proteins of claims 1-4 has been inserted.

10. A vaccine composition comprising any one of the recombinant delivery vectors of claim 9 and a pharmaceutically acceptable carrier.

11. An immunogenic composition comprising any one of the recombinant delivery vectors of claim 9 and a pharmaceutically acceptable carrier.

12. A recombinant delivery vector encoding an attenuated virus further comprising a nucleotide sequence encoding one or more of the proteins of any one of claims 1-4.

13. The recombinant delivery vector of claim 12 wherein the attenuated virus is selected from the group comprising HIV, encepalitis virus, poliovirus, poxvirus and vaccinia virus.

14. A vaccine composition comprising any one of the recombinant delivery vectors of claim 12 and a pharmaceutically acceptable carrier.

15. An immunogenic composition comprising any one of the recombinant delivery vectors of claim 12 and a pharmaceutically acceptable carrier.

16. A method of generating antibodies in a mammal comprising administering one or more of the proteins or fragments thereof of any one of claims 1-4, in an amount sufficient to induce the production of the antibodies.

17. A method of generating antibodies in a mammal comprising administering a DNA or mRNA sequence encoding any one of the proteins or fragments thereof of claims 1-4, in an amount sufficient to induce the production of the antibodies.

18. The method of claim 17, wherein said DNA is naked DNA.

19. A diagnostic reagent comprising one or more of the isolated HIV-1 envelope proteins or fragments thereof of any one of claims 1-4.

20. A method of detecting HIV-1 antibodies in a sample comprising the step of determining whether antibodies in the sample bind to one or more of the HIV-1 envelope proteins or fragments thereof of claims 1-4.

21. A cyclic peptide comprising the amino acid sequence of either claims 3 or 4.

22. An isolated antibody which specifically recognizes the protein of claims 3 or 4.